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ABSTRACT

Michael Oakeshott, an English political philosopher, wrote extensively about education and how people learn political skills. Much of what he wrote may have interesting implications for instructional systems design. This paper is an explication of two aspects of Oakeshott's writings. The first deals with the nature of knowledge and its relationship to teaching and learning. The second deals with Modern Rationalism and how Oakeshott's conception of rational behavior impinges on the act of instructional design. Some of Oakeshott's basic assumptions are singled out: (1) there are always important aspects of a skill that can never be reduced to rules or principles; (2) real skill can only be acquired through a kind of apprenticeship by being immersed in a tradition of action; and (3) Modern Rationalism erroneously believes that actions based upon principles are superior to actions based upon tradition. An evaluation of Oakeshott's theories and their implications for instructional systems design conclude the paper. (Contains 11 references.) (Author/ALF)

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Michael Oakeshott's Philosophy of Education and its Implications for Instructional Design Theory and Practice

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Abstract

Michael Oakeshott, a political philosopher, wrote extensively about education. Much of what he wrote may have interesting implications for instructional systems design. This paper is an explication of two aspects of Oakeshott's writings. The first deals with the nature of knowledge and its relationship to teaching and learning. The second deals with Modern Rationalism and how Oakeshott's conception of rational behavior impinges on the act of instructional design.

"Learning is the comprehensive engagement in which we come to know ourselves and the world around us. It is a paradoxical activity: it is doing and submitting at the same time" (Fuller, 1989, p. 43).

"The counterpart of the teacher is not the learner in general, but the pupil. And I am concerned with the learner as pupil, one who learns from a teacher, one who learns by being taught" (Fuller, 1989, p. 44).

"Education in its most general significance may be recognized as a specific transaction which may go on between the generations of human beings in which newcomers to the scene are initiated into the world they are to inhabit "(Fuller, 1989, p. 63).

Introduction

Michael Oakeshott, an English political philosopher, was greatly interested in the question of how people learn political skills. From this he developed a general theory of knowledge and its acquisition in educational settings. One of his basic assumptions is that there are always important aspects of skill that can never be reduced to rules or principles. Because of this, real skill can only be acquired through a kind of apprenticeship by being immersed in a tradition of action. Additionally, Oakeshott is particularly critical of Modern Rationalism, which he believes commits the error of believing that actions based upon principles are superior to actions based upon tradition. This paper attempts to explicate and evaluate these two themes and then discusses their implications for instructional design theory and practice.

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Knowledge

Michael Oakeshott believed that all knowledge is constituted in various kinds of abilities. Abilities may be described in terms of propositions or rules, but the ability always precedes the rules. Any propositional description of an ability is always an abridgment of the ability. The ability always implies knowledge far beyond what can be expressed in propositions. Rules do not exist prior to an activity, nor do they govern it or provide an impetus for it. Real knowledge only exists in its use. When an ability involves making or doing and it is significantly composed of physical movements we call it a skill. Complex skills may be composed of simpler skills. In addition, when an ability is not significantly composed of physical movements we may still describe it as skillful.

However we do not usually describe as skills activities composed primarily of mental operations. Complex abilities, such as those associated with engineering, exploring, composing, acting, teaching, and so forth would fall in this category. Such abilities are complex systems of simpler abilities, grouped and aimed at a specific focus. It is this conjunction of what we know and the way we use it that constitutes a crucial feature of Oakeshott's epistemology. Knowledge does not exist apart from its application. Indeed, "What we are aware of is not a number of items of knowledge available for use, but having powers of specific kinds..." (Fuller, 1989, p. 51). Abilities (knowledge) consist of two components: information and judgment. Information consists of facts, rules, concepts and principles. It is impersonal. Information can be independent and inert. It only becomes useful knowledge to the extent that it is related to particular skills or abilities. An important component of information is rules and rule-like propositions which are related to abilities.

Every ability has rules. Rules are related to abilities in one of two ways. First they may be a prerequisite to being able to perform. For example the correspondences between the alphabet and Morse Code must be known before messages may be sent by telegraph. Secondly, rules may constitute a criterion for determining the correctness of a performance. Oakeshott says that a grammar of a language is an example of this kind of rule. It is not required to perform in the language, nor is it necessary to detect mistakes, but it can serve that purpose. There is a third kind of rule-like proposition which may be called a principle. Principles are used to explain a performance; they are never a component of the performance itself. Oakeshott uses the example of the mechanics of riding a bicycle. The principles of balance and motion are usually completely unknown to the rider, nor do they embody a criterion of the performance. They belong to a separate ability, the ability to explain a performance.

To summarize, all knowledge is embodied in abilities, and all abilities have an informational component. However, this informational component of knowledge, whether it be facts or rules, never constitutes all of what we know. For any concrete ability to be realized it must contain a component which Oakeshott calls judgment.

Judgment consists of practical knowledge—knowing how. It is the tacit component of knowledge. Judgment when combined with information gives us knowledge and allows us to act and understand. Judgment cannot be taught or learned separately from information. It is acquired from the situation of learning itself, through a kind of apprenticeship. It cannot be resolved into information. With simple skills this judgment component may be relatively small, but as we ascend to higher levels of cognitive skills, the component of knowledge attributable to judgment is much greater. For Oakeshott abilities do not exist in the abstract. They are to be found only in concrete examples. And since each concrete example of an ability displays the style of its performer, style is an important aspect of any ability. In a sense each ability is like a language. It is confined by its grammatical rules, but each speaker will have his own way of expressing himself. In Oakeshott's opinion to ignore this aspect of knowledge is to miss "three-quarters of the meaning" of a performance.

To summarize, for Oakeshott knowledge is embodied in abilities. Abilities consist of information and judgment. Information consists of facts and rules. The part of knowledge called judgment is tacit and implicit. It cannot be completely codified, but it is the spring of all action. True knowledge is impossible without it.

Learning and Teaching

Education for Oakeshott is a specific kind of interaction between teachers and learners. He is careful about how he uses words and especially stresses that he is concerned not with the learner in general, (because learning takes place constantly, both formally and informally), but rather with the learner as pupil, the learner as counterpart to the teacher. The function of the teacher is to initiate learners into the inheritance of human achievements. This inheritance is not a world of abstraction, it is a world of beliefs. These beliefs are expressions of the human mind and form an interlocking structure we call culture. The initiation of students into this world is the job of teachers.

Oakeshott recognizes that learning may occur accidentally without the attention of the learner or the intention of the teacher. However, such learning is not the result of teaching. Teaching is a deliberate act designed to promote the initiation of the pupil. It has an order and arrangement.

There is an oft-raised question in educational circles of whether education should be the imparting of information or the cultivation of the ability to learn and think. Oakeshott recognizes this dilemma and tries to resolve it this way: He sees this question as a difference in point of view between the pupil and the teacher. The student naturally comes to education with the desire to acquire information. He is focused on that which he does not have. The teacher, seeing that information alone cannot suffice, seeks to impart a way of thinking which will allow that information to grow and prosper. Thus, education is properly concerned with both information

and learning to learn but those concerns tend to be emphasized differently by differing points of view.

Although Oakeshott is concerned with introducing students to their cultural inheritance, he does not regard education as putting students in touch with the dead. Inevitably, much of our cultural inheritance will be the product of past generations. However, the purpose of education is not to celebrate the past, but to release the student from "servitude to the current dominant feelings." Oakeshott recognizes that a teacher may be excused if he finds no enthusiasm for the political and material standards of the current culture, but if that person has no confidence in the past he cannot be teacher, for he has nothing to teach. Education, for Oakeshott, is an emancipation from the "tyranny of the moment" and a step towards becoming human.

Education in the inheritance of human achievement cannot takes place in the abstract because that inheritance has no master structure. Our culture was not designed, but rather evolved as the result of uncountable individual actions. It cannot be taught in principle, but must be learned in its details. Also, teachers can only present that inheritance in parts. It is too large and too contingent to allow inclusiveness. Teaching and learning, therefore, are always focused on specific human achievements.

Since there are two aspects to knowledge, information and judgment, there must be two types of teaching: instructing and imparting. Oakeshott believes that the teaching of information, called instruction, is best done by direct communication. Very often this consists of communicating facts which have no immediate application. Because children are quite experienced at obtaining information which has immediate application, there would be no need for teachers if all information were of this kind. Since much information is not readily applicable, we need teachers to communicate this information to students. The teacher's job is first to select and organize that information. The teacher then has two more tasks. He must decide the order in which the information is to be presented and then cause the student to practice with this information so that it may be recalled accurately and readily.

Education for Oakeshott does not end with this practice. Oakeshott believes that all human activity involves knowledge which is beyond explication in rules. It is this component, which Oakeshott calls judgment, that must be imparted. It can never be communicated directly. Also, it is precisely this judgment that allows people to do, make, understand, and explain, in other words, think. Learning to think can be taught, but not in the absence of information. That is, it is not taught outside of a lesson on arithmetic or Latin grammar. It is a by-product. Thinking is a style of doing, an idiom, which is revealed in the area of action not covered by rules. It is learned by recognizing its effect in specific cases. Thus Oakeshott argues that an important part of any learning situation is the *style* of the teacher.

To summarize, Oakeshott believes that education is a deliberate initiation of pupils into their cultural heritage. Since knowledge has both explicit and tacit components, education consists of instructing and imparting. Instructing is direct and formal. It requires that the teacher select what is important, decompose that information, and arrange it in an order which respects its prerequisites. The teacher must then cause the student to practice. Imparting, on the other hand, is indirect and informal. Teaching judgment is teaching how to think and thinking is a way of acting. For most complex activities, the tacit component of knowledge is more important than the explicit component.

Rational Conduct

The second important aspect of Oakeshott's philosophy of education is his interpretation of what it means to say that a person's behavior is rational.

The systems approach to instructional design is often presented as a rational approach to instructional problems. An instructional designer following the systems approach is said to be acting rationally. Michael Oakeshott (1962) asked in an essay entitled "Rational Conduct" what it means to say that a person is *acting* rationally as opposed to *arguing* rationally.

We have a fairly clear idea of what a rational argument is like. It is based on empirical propositions. It uses logical patterns of reasoning. It draws conclusions based upon acceptable inferences and deductions. It avoids contradictions. However, it is not at all clear what we mean when we say that someone is *acting rationally*. This is an especially interesting question for instructional design theorists because instructional design is usually assumed to be a rational form of behavior.

Oakeshott points out that the word, rational, has been applied to many forms of behavior. Some examples are rational agriculture, rational diet, rational education, and rational dress. Professor Oakeshott dwells especially on the latter category and examines a certain kind of girl's clothing called bloomers which were introduced in the late nineteenth century (Oakeshott, 1962). Bloomers were a kind of clothing considered to be 'rational dress' for female cyclists. They were clothes designed to serve a specific purpose; namely, to allow women and girls to ride bicycles unencumbered by traditional dress.

Michael Oakeshott asks why bloomers were thought to be rational. He answers that it seems to be first because they were adapted to circumstances—they were a successful solution to a specific problem. Also, the solution sprang from an independent reflective consideration of the problem. Thus, a 'rational method' is a form of deliberate conduct aimed at a purpose and governed only by that purpose. Based on this analysis he believes the following is a fair account of what people often mean when that talk of rational conduct.

- It is a manner of behaving. It does not depend on success.
- It is behavior deliberately directed to the achievement of a formulated purpose.
- It leads to a simple end. If it leads to a complex end it must be presented as a series of simple ends.
- Rational conduct requires the availability of means and a way of selecting them.
- It is not capricious or impulsive. It follows an explicit principle.
- Its aim would be, first, to determine a purpose to be pursued, secondly, to determine the means to be employed to achieve that (and no other) end, and thirdly to act. (1962, p. 88)

This may sound quite reasonable to most readers but, *Michael Oakeshott believes this account is completely wrong*. Thus he writes that:

> "If this is 'rational' behavior, then it is not merely undesirable; it is in fact impossible. Men do not behave this way, because they cannot. No doubt those who have held this theory have thought they were describing a possible form of behavior; and by calling it 'rational', they recommended it as desirable: but they were under an illusion. No doubt, also, wherever this theory is current, behavior will tend to conform to the pattern it suggests, but it will not succeed. ... My view is that this is not a satisfactory notion of rational conduct because it is not a satisfactory account of any sort of conduct." (1962, p. 89)

This conclusion is based in part upon his previously described theory of knowledge. Knowledge is embodied in abilities, and abilities always have a tacit component which cannot be explicated. Thus behavior cannot be based upon explicit principles or overt analyses. Behavior is always the expression of knowledge which is in part implicit.

Michael Oakeshott believes the designers of the 19th century bloomers did not act rationally in their sense of that word. The clothing they designed was not governed solely by mechanical and anatomical considerations. In fact, they were also governed by 19th century English feelings about what a girl's clothing should look like. None of this was made explicit by the designers—indeed, most of those feelings could not be made explicit, because as Oakeshott explains, action is not a manifestation of knowledge, but rather, knowledge is a manifestation of activity. When a person acts, "...his actions are determined not solely by his premeditated end, but by what may be called the traditions of the activity to which the project belonged" (1962, p. 99). "'Rational' conduct is acting in such a way that the coherence of the idiom of activity to which the conduct belongs is preserved and possibly enhanced" (1962, p. 102). An idiom of activity is a tradition or a knowledge

of how to behave appropriately in particular circumstances. The rules of behavior of any tradition are a mere abridgment of the activity. We know more than we can say. Traditions of activity are constantly changing things, changed by the activity itself. "No action is by itself 'rational' or is 'rational' on account of something that has gone before; what makes it 'rational' is its place in a flow of sympathy..." (1962, p. 109).

Michael Oakeshott finally argues that he is using the word *rational* in the way it is normally used. He argues that when courts of law use the 'reasonable man' standard (the standard that a reasonable man would have acted thus) they are saying that the man's behavior conforms to acceptable standards. This is a *post hoc* judgment; it has nothing to do with what he may have thought before he acted.

The core of the erroneous conception of behavior is a predisposition which Oakeshott calls Modern Rationalism. The characteristics of the Rationalist are easy to enumerate. The Rationalist believes in the independent mind, free from any authority except reason. The Rationalist believes that traditions, habits, customs, etc. are enemies to progress. Progress for the Rationalist is the result of disengaged reasoning about problems. Indeed, the Rationalist sees the world as a series of "problems" awaiting rational solutions. This partly explains why Rationalist educators deem "problem solving" to be an important part of education. The Rationalist never wants to repair things. That would require real knowledge. Instead he wants "fundamental change." The Rationalist cannot see change unless it is self-conscious change. Thus, the Rationalist wants to replace tradition (which changes constantly) with principles (which by their nature are inflexible). Because the Rationalist derives his solutions from cold reasoning unclouded by prejudice, he finds it difficult to believe that anyone who thinks freely and honestly could disagree with him.

Oakeshott believes that judgment, the tacit component of knowledge acquired though experience, is from the Rationalist's point of view not knowledge at all. Thus, the Rationalist emphasizes the superiority of technical knowledge, the knowledge employed in overt reasoning. Indeed, for the Rationalist there is no knowledge but technical knowledge. He is like a foreigner who sees nothing but the surface characteristics of a society. For the Rationalist, education is nothing more than training in technique, that part of knowledge that can be learned from books.

Oakeshott asks, Why is the Rationalist image attractive? There are several reasons. First it serves as a pedagogic device. We tend to believe that in order to teach something we must first reduce it to set of propositions (the grammar of a language, the rules of research, the scientific method—Oakeshott does not deny that this may be helpful, only that it is sufficient). Another impulse to the rationalist position is a desire for mental honesty. That is, a disinterested mind, free from prejudice, is considered to be a desirable thing. Still another source of support comes from the desire to begin from a position of certainty, a position which only independent propositional knowledge seems to deliver. Lastly, the call for rational

conduct reflects an inability to deal with change. Rather than deal with actual situations, Rationalists seek to wipe the slate clean. Nothing ever begins from zero but many reformers hope to do so. They reject the present situation as worthless and have nowhere to turn but the "rational" mind.

Rationalism may be summarized as an attempt to achieve mistake-proof certainty through the use of pure technique, uncolored by prejudice. It seeks to substitute an overt method for the covert judgments of tradition. Rationalism, for Oakeshott, is a relic of the belief in magic in that it seeks an unattainable level of certainty.

An Evaluation of Oakeshott's Theories

In recounting Oakeshott's theory of knowledge, constructed in the early 1960's without reference to psychology, one may be struck by how generally compatible it is with current psychological and computational theories of knowledge. To take one prominent example, Anderson's (1983) theory of cognition posits two main types of knowledge: declarative and procedural. The two types of knowledge resemble Oakeshott's information and judgment in many ways. Declarative representations consist of cognitive units. Units may be propositions, strings, or images, much like Oakeshott's facts and rules. Declarative learning is abrupt and direct, just as Oakeshott would have it. Procedural learning, on the other hand, is gradual and inductive, just like the acquisition of judgment. Procedural knowledge consists of productions (IF-THEN structures) which are executed automatically when the IF clauses are satisfied. Procedural knowledge does not use short-term memory, and thus is tacit. Learners are not conscious of the contents of procedural memory, only the capabilities it affords. Thus, painted in broad strokes like this, there is no obvious conflict between Oakeshott's theory and this empirical psychological theory.

Oakeshott's theory is not without its problems, however. His insistence that knowledge is equivalent to ability seems counterintuitive. He recognizes that we may have information in our heads, but that it doesn't become knowledge until it is incorporated into an ability. Thus, I may "know" that a certain company in Michigan sells epoxy used in wooden boat building, but, according to Oakeshott, that information is not knowledge if it is not linked to an ability. This is fine if you define knowledge that way, but if our dilemmas can be resolved simply by redefining the words we use then we have no problems. Oakeshott is using the word knowledge in a very unusual way. This unusual use of the word knowledge is especially unfortunate because typically Oakeshott is extremely careful about detecting the normal meaning of words and using them without distortion.

In fact, Oakeshott is ambiguous about this question. He states that useless information (information unlinked to ability) is a component of knowledge. It only becomes useful when it attached to an ability. Thus, information is a kind of knowledge. This ambiguity is, in part, a product of Oakeshott's style of writing. He

deliberately eschews the technical style of modern academic writers, preferring a literary mode of expression. This makes for pleasant reading, but it does not help resolve certain crucial questions such as the one raised above.

Additionally, Oakeshott's insistence that all activities must find their spring in judgment is problematical. Anderson (1982), for example, attributes skill acquisition to weak problem-solving methods such as analogy. Anderson believes that declarative representations of examples are used to construct action sequences which allow approximation of skilled behavior. If the source of this semi-skilled activity is taken to be the declarative representation then Oakeshott's theory is wrong. Certain types of semi-skilled or novice activity may not have a tacit origin.

If Oakeshott countered that the source of the activity is not the declarative representation, but the use of analogy as a problem-solving strategy, then the question is complicated. Human use of analogy is notoriously hard to explain (Vosniadou & Ortony, 1989). Any two situations may be similar in any number of arbitrary ways. The argument might be made that the use of analogy is a form of tacit knowledge and therefore the activity is still rooted in judgment. However, in these situations there seem to be two activities going on simultaneously. First, the actor is analogizing in order to find a method. But secondly, the actor is executing an activity. If this second activity is thought of as differing from the first, then plainly it is an activity that derives from information not judgment. If this is true then Oakeshott's claim that all activity is rooted in judgment is too strong. Oakeshott position would still hold for skilled activity, but not for unskilled activity. Perhaps he is referring only to skilled behavior, but that is not the impression ones gets.

Another problem is that Anderson (1983) sees all procedural knowledge as first passing through declarative memory and then transformed into productions by the mechanism of practice. It is not clear how judgment enters the mind in Oakeshott's system, but it appears not to pass though declarative memory. Again he is ambiguous on this point. He does assert that certain aspects of judgment, i.e., honesty, patience, exactness, industry, etc., are learned by recognizing them in the actions of a teacher. Thus judgments seem to be consciously acquired. Perhaps they are like the particulars which serve a general purpose which Schön (1988) has written about. However, Oakeshott seems to reserve the term judgment for only those aspects of knowledge which are completely tacit. Anderson, on the other hand, would locate such low-level, and plainly overt, skills as typing in procedural memory, so there is apparently some conflict between these positions. Oakeshott allows that low-level skills have a very minor tacit component, and in the case the case of skills like typing, that tacit component may be so minor that it can be safely ignored from an educational point of view.

Leaving these problems aside, it is interesting to compare Oakeshott's theory with certain knowledge representation theories becoming well-known to instructional systems people. Jones, Li, and Merrill's (1990) computational system of

knowledge representation contains elements that parallel Oakeshott's theory. In particular, Jones et al.'s use of enterprises as a central unit of knowledge seems to resemble Oakeshott's use of the word, activities. An enterprise is a complex performance that requires an integrated set of knowledge and skills. This sounds like Oakeshott's decomposition of knowledge into information and judgment. Jones et al., however, specifically decompose knowledge into three basic components: entities, activities and processes. Entities are things: objects, creatures, places or symbols. Activities are actions performed by the student. Processes are actions or relations outside the learner. These three components may be linked by a set of defined relationships. In general, because Jones et al.'s purpose is to create an entirely explicit representation of knowledge they do not consider that knowledge may have a tacit component. Thus, activities and processes in Jones et al.'s system correspond to a form of information in Oakeshott's system. To the extent that I understand the Jones et al. system there is no provision for what Oakeshott calls judgment. This is within the instructional design tradition of treating knowledge and skills as things that can be made explicit and communicated directly. Thus, the component of knowledge called judgment by Oakeshott is not addressed by Jones et al. As with Anderson's psychological theory, Oakeshott's insistence on a central and exclusive role for tacit knowledge distinguishes it from other theories of knowledge.

To summarize, Oakeshott's characterization of knowledge has many superficial communalities with current psychological and computational theories of knowledge. However, his insistence on a central role for judgment, a kind of tacit and traditional knowledge, distinguishes it from other theories. In general, these theories take no account of this kind of knowledge.

Turning to Oakeshott's criticism of Modern Rationalism, it is clear that he differs radically with the standard academic conceptions of skill, expertise, and professional behavior. Oakeshott's criticism of Modern Rationalism rests upon his theory of knowledge. If you accept his assertion that activities are grounded in experience-based judgment, then you will accept that rational behavior cannot be based upon explicit principles. Since recently there has been put forth a hypothesis, roughly compatible with Oakeshott, that learning requires "cognitive apprenticeships" and that "all learning is like language learning" (Brown, Collins, & Duguid, 1989), I will try to evaluate Oakeshott's position by reference to foreign language learning.

It is a commonplace that the fluent speaking of a foreign language requires that you automatize the rules and speak without "thinking." It is also accepted that languages are vast and that no complete grammar is ever likely to be written. Thus, a learner of Japanese, for example, can never learn the language from books and even if you could learn the rules from books you would still not be able to speak properly. Skilled speaking of Japanese requires that you speak "like a Japanese," plainly a vague, though concrete, criterion. Oakeshott would, of course, hold that skilled behavior, like speaking a foreign language, contains a large tacit component, and that the rules of such an activity can never be made completely explicit. Thus, for language learning at least, Oakeshott's predictions seem to hold and if all

learning is indeed like language learning as Brown et al. hold then cognitive apprenticeships, if they include immersion in the traditions of action, would be exactly what Oakeshott would recommend.

His argument, of course, is that all forms of skilled behavior are exactly like language learning. Skilled behavior requires that you behave like a native, whether you reside in a foreign country or the country of scientists or plumbers. Rational behavior, for Oakeshott, is precisely this kind of "native" intuition about appropriate behavior. Since speaking a foreign language according to explicit rules would result in a less-skilled form of behavior it follows that any activity based on a set of principles will also be inferior to action based on the traditions of the activity. For Oakeshott, the only way to acquire this authentic kind of rationality is to be immersed in the culture, to have a cognitive apprenticeship.

Many readers will, no doubt, still find Oakeshott's position strange, even weird. They are so accustomed to (they were raised in a tradition of) seeing action based upon explicit principles and methods as the preferred representation of professional behavior that they will find this theory unacceptable. Their conceptions of instructional design are based upon a rationalist theory of knowledge and action. Standard prescriptions for instructional design fairly replicate Oakeshott's characterization of Rationalism. We typically talk about clarifying purposes, determining objectives, selecting means, and acting based upon our analysis. It is important to point out, therefore, what Oakeshott is *not* saying. He is not saying that, in the absence of true and rich experience, intuition is superior to explicit methodology. What he is saying is that true skill, in addition to requiring explicit informational knowledge, also requires massive exposure to the traditions of a domain of activity. Also, he is not saying that behavior based upon explicit principles is doomed to failure. It will often succeed, not because of the principles, but because, at crucial moments, the actors will abandon principles and act according to their intuitive judgments based upon whatever experiences they may have. Since tacit judgments occur nearly transparently it is very easy to ignore or devalue them. One need only set foot in a foreign country to appreciate that most of the actions we perform unthinkingly every day do not "make sense" to other people. *(Question: How many times do you knock on a door in the USA? What does it mean if you vary the number of knocks?)*

Precisely because judgment is transparent, to most instructional designers it is not considered important. However, it has not gone completely unnoticed. Schön (1983, 1987) has recorded the problems of architecture students who complain that most of the decisions made by their teachers are covert. The traditional solution to this problem in architecture has been to require a studio experience of all students. This is interesting because architecture, as a discipline, evolved before the age of Modern Rationalism and the studio experience is precisely the kind of apprenticeship Oakeshott would prescribe. If these examples of language learning and architecture are representative of skilled behavior in general, it appears that

Oakeshott has made a well-founded criticism of the Rationalist account of the proper basis of behavior.

In sum, although Oakeshott's conception of rationality and his criticism of Rationalism may appear strange at first, it follows directly from his theory of knowledge. If correct, he has made a major contribution to knowledge by pointing out that true skilled behavior is acquired by initiation in a tradition, not just by studying technical knowledge encoded in principles. Essentially what he is saying is that tradition is a special form of technology. It is a way of acting and thinking that captures important tacit knowledge which can never be made completely explicit. As such it is an essential component of intelligent action.

Implications for Instructional Systems Design

ISD methodology

On one level at least Oakeshott's ideas seem very compatible with typical ISD methods. His conception of knowledge as ability suggests that knowledge can only exist in actions. Since ISD people are accustomed to thinking that lessons are focused around behavioral objectives, there is an obvious affinity between the two positions. If knowledge is a manifestation of activity, it makes sense to measure knowledge by observable actions. Additionally, Oakeshott believes that complex skills are conglomerations of subskills that can be separated out and approached individually. Skills also have hierarchical relationships with certain facts and rules which are prerequisites to mastery. All of this seems familiar and uncontroversial. Oakeshott's conception of the teacher as a person who selects content, orders it, presents it, and causes the student to practice with it is unexceptional. Even Oakeshott's disinterest in discovery learning, is not a problem for ISD people, who generally prefer direct instruction.

However, when Oakeshott starts talking about imparting judgment to students, he parts company with ISD. Normal ISD has no prescriptions for such knowledge because it is not recognized as knowledge at all.

This need not be the case though. One way of thinking about the imparting of judgments is to use a skills matrix. Peters (1968) criticized Oakeshott by asserting that to the extent that a skill is directed toward a well-defined goal it need not be learned by apprenticeship and could be learned by self-study. Another way of expressing this idea is to make a distinction between open and closed skills.

Originally, closed/open skills referred to those learned in a predictable or unpredictable environment (Poulton, 1957). For instructional design purposes, closed skills may be thought of those which embody a standard or "correct"

procedure; open skills have no one "correct" form. For example, the setting of the time on a digital watch, a closed skill, has a defined procedure which, if followed, usually guarantees success. On the other hand, a game such as chess, although having well-defined components, has no set of moves which will guarantee success. Chess-playing, like most game-like activities, is an open skill. (Open skills like chess playing often have closed skill subcomponents.)

	Discrete:	Continuous:
Closed:	• operating many push-button devices. • math operations • typing. • many aspects of written language. • Speaking sentences in foreign language. • repairing simple things • making simple objects—not works of art (carpentry, dressmaking, cooking) • reading & writing (basic skills) • basic computer operations	• controlling many devices that involve motion. (dentist drill, lathe, airplane, sailboat, bicycle) • taking dictation. • refereeing a game (basic level) • basic listening comprehension (foreign language) • swimming (and most non-competitive sports) • auctioneering • surgery • welding
Open:	• writing an essay • painting (art) • planning a lesson • games (chess) • architecture • most kinds of design. • skilled cooking • writing a proposal • skilled computer programming • photography	• acting • singing • teaching • conversing in a foreign language • competitive sports • negotiation/debate • lawyer interrogating a witness • managing a project • leadership • warfare

Figure 1. Skill Matrix: Examples

In order to construct a matrix it is necessary to introduce, in addition to the closed and open dimension, another dimension based on discrete and continuous skills. Discrete skills traditionally are skills under the control of a discrete stimulus. However, for instructional design purposes, they may be thought of as skills which are under no time constraints. By no time constraints, I mean that the procedure may be performed slowly with interruptions and still achieve success. An example of a discrete skill is programming a VCR. One can successfully program the VCR from a manual without practice. Of course many discrete skills, with practice, become smooth and automatic and may appear to be continuous. Typing is an example. However, one may stop or slow down at any time and still achieve a successful product.

In contrast, continuous skills, traditionally defined as skills under the control of a continuous stimulus, may be thought of instructionally as skills performed under the constraint of real-time. The time constraint is a result of the fact that these skills involve reacting to a continuously changing situation which is at least partly out of the control of the actor. Many of these skills involve continuous motion, such as swimming or dancing. The pace of the action is dictated by nature (gravity) in the case of swimming, whereas for dance, rhythm and the presence of other dancers form a constraint. In addition to such physical skills, many business skills, like negotiating or interviewing, are also continuous. The key factor in many continuous skills is that the actor is reacting to a changing environment which is not completely under his/her control. By combining the two contrasting classifications, one can produce a 2x2 matrix of skills (see Figure 1). Note that the examples given may be ambiguous. For example cooking which is called discrete, include continuous skills, like frying. In many cases, the distinction between closed and open is often a distinction between normal, basic skills and high mastery. High mastery of a skill is almost always open.

Viewed from the point of view it appears that Oakeshott probably had open skills in mind when he constructed his theory. It is very improbable that programming a VCR involves any "style" or judgment, in his sense. In general, if the student masters the correct procedure, success is achieved. Originality is not desired.

One important difference between open and closed skills is the kinds of examples that the students may be exposed to. Since closed skills have a correct form the instructor will expose the students to that form. Students can practice by mimicking the correct performance and, very often, simple right-or-wrong feedback will suffice because the student can check his/her performance against the correct model.

On the other hand, open skills, because they have no one correct form by definition, present an instructional design problem. It is here that Oakeshott's ideas are helpful. It appears that real mastery of open skills, in general, does require the kind of judgment that can never be reduced to rules. One way of analyzing this problem is to consider the kind of teaching used in traditional open-skills education. By traditional open skills I mean architecture, art, literature, music, theater and the like.

In general traditional education in open skills has involved exposing the student to "masterworks." It is useful to note that discrete open skills generally result in a physical product, whereas continuous open skills result in a performance. Thus a masterwork can include products such as buildings, books, and paintings as well as recordings of dances, plays, and music. Using this kind of empirical data, we can conclude that open-skills education, if it is to recognize Oakeshott's judgment component of knowledge, must include an apprenticeship which exposes students to masterworks. This suggests that the teacher, although important, is not the only model for judgment. Peters (1968) noted this problem by referring to the work of coaches who elicit skilled performance from athletes without being "masters"

themselves. Of course, student-athletes are well aware of the performances of great athletes, and these performances probably serve the same purpose for the athletes as Shakespeare for literature students or Picasso for art students.

Although the prescription of using masterworks to teach open skills is straightforward, its implementation is problematical. In general, the traditional open skills have, over many generations, developed a consensus concerning what actually constitutes a masterwork, and have generated "museums," both literally and figuratively, of examples of masterworks. Even chess players have published collections of great games by master champions of the past which they can recreate and study. For many of the open skills which instructional designers are trying to teach, there exists not such consensus. Thus, there are no "museums" of great negotiators, managers, or even teachers. If Oakeshott's ideas are accepted, the creation of such museums will be a priority. It is here that technical means such as the videodisk or multimedia can be helpful. Since ISD has a long association with technology, this will interface well with current practice.

In spite of the unconventional appearance of Oakeshott's theory, from a traditional ISD viewpoint, I have tried to show that his ideas can be incorporated into standard ISD practice. By viewing judgment as a component of open skills, and taking traditional open skills education as an empirical basis, fairly simple and straightforward implications for ISD can be drawn. Implementation will require the construction of a collection of masterworks but this is well within the capability of instructional technology.

The Education of Instructional Designers.

The systems approach to instructional design has long been considered rational because it sets goals and pursues them based upon empirical principles, free from folklore and superstition. However if Oakeshott's definition of rationality is accepted, ISD must be considered rational only if the instructional systems designer is acting within a tradition of activity known as instructional systems design. This raises questions about the proper education of instructional designers.

If is fair to say that current education consists of introducing students to instructional design principles and then causing the students to practice in semi-realistic and realistic situations. Many students also experience internships. Students are, to my knowledge, not deliberately exposed to the masterworks of ISD.

One way of thinking about how the education of ISD students could be different is to examine the education of architects. The education of architects, a traditional profession, evolved before modern times. Students naturally are exposed to models or pictures of the great buildings of the past. This part of their education occurs almost unconsciously. Another essential part of their education is the design studio.

The design studio experience has traditionally been a component of architectural education. The idea that the architectural studio could serve as a model for professional education has been well developed by Schön in his book, *Educating the Reflective Practitioner*. (The following account is based upon conversations with architecture students and professors.) The architectural design studio, as a pedagogical method, has no parallel in its intensity and involvement, save perhaps the internship of medical students. The studio experience consists of several key components. Among these are a problematic situation, a studio teacher, a jury of experts , and a place, called a studio, dedicated to the design activities of the course. The problematic situation is intended to represent the real world of practice, but be relatively free of its pressures, distractions, and risks. The studio teacher guides the students through their design projects, while sharing his knowledge and experience. He functions less as a teacher than as a coach who demonstrates, advises, criticizes and questions. The jury of experts, recruited from university faculty, serves two roles. The first is to participate in the studio, sharing their suggestions and criticisms with the students. In some ways this resembles a master-apprentice relationship, and it allows the students to see how an experienced professor would deal with real world problems—something they almost never encounter in conventional courses. The second role of the jury is to judge the students' projects at the end of the semester. Projects are displayed and comments are given publicly. The jury's judgment in many cases is the grade for the project.

The final component of the studio experience is the studio itself. A studio is a dedicated workplace. In architectural schools, when students enroll in a studio course they are typically assigned a desk and equipment which "belong" to them for the duration. Since the workplace is restricted to the enrolled students and their teachers there is a highly social component in the studio experience. Students cooperate with each other and learn from watching other projects take form. There is also an element of competition which arises from the fact that all are striving to solve the same problem.

As a result of the studio experience, students can be expected to have gained at least three types of knowledge. The first involves a new ability to represent problems and synthesize solutions. The second involves creative approaches to problem-discovery and problem-solving. The third involves a new critical language which allows them to discuss problems and judge solutions. Although judgment (in Oakeshott's sense) is involved in all three types of knowledge, it is especially in learning the critical language that students become initiated into the traditions of their profession. The educational experience in the design studio involves all three of these types of learning, but it does so simultaneously. Learning takes place primarily through example and experience rather than through explanation. In this way the studio is intended to provide a bridge between theory and practice.

Could this be a model for the education of instructional designers? It is apparent that there are many similarities between architecture and ISD. Both are design activities. Both can trace their roots to activities that emerged in ancient times.

Both require technical knowledge. Both seek to fashion specific artifacts to fit specific situations. The fact that architects design artifacts that exist in space and instructional designers design artifacts (lessons) that exist mostly in time, means that ISD is somewhat more abstract and therefore difficult to acquire. In spite of this difference, it seems apparent that a design studio experience could be easily incorporated into ISD training. A prerequisite to such an experience would be exposure to the masterworks of ISD. As with other recent open skills, there exists no professional consensus on what those works would be. There appears to be no theoretical barrier to the construction of such a consensus if professors of ISD sought to do so.

As for the implementation of a design studio experience, there again appears to be no theoretical barrier. Many practical obstacles will have to overcome, though. There is no physical location currently allocated for design studio experiences. Space is more precious than gold at most universities. There is no tradition of studio pedagogy. Perhaps some skill could be acquired if ISD professors audited (or participated in) architecture studio classes, but this kind of skill will evolve slowly. The students will not know how to act. Architecture students have the benefit of the experiences of generations of students which have set parameters for what is rational and irrational behavior in a studio class. Juries may be difficult to assemble. Schools of Education have no provision for compensation for jury duty. There is no tradition of participation. Jury members will not know how to behave.
A graduate student of mine, who was previously a student of architecture, once asked me why we in education are so kind when we criticize students' work. "In architecture," she said, "if we don't like something, we say it 's ugly!" Our behavior was irrational to her because she had not been sufficiently initiated into our traditions. Instructional design juries will need to develop a tradition of criticism which meshes with the culture of schools of education. The obstacles are many but none are insuperable, if there is a will to take the implications of Oakeshott's philosophy seriously.

Conclusions

Michael Oakeshott's philosophy of education is based upon a conception of the nature of knowledge, its acquisition and use. Because he posits a component of knowledge, judgment, which can never be reduced to rules, and can only be learned through a kind of cognitive apprenticeship, his philosophy has implications for ISD. Those implications include prescriptions for the teaching of open-skilled behavior and the training of instructional designers. The purpose of this paper has been to elaborate that philosophy and its implications.

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